Manitoba Agriculture

nformation Update

Guidelines For Estimating
Soybean
Production Costs

DATE: January, 2002

This guide is designed to provide you with planning information and a format for calculating costs of production for a soybean enterprise. Also available, on the Manitoba Agriculture and Food website, is an Excel spreadsheet and it can be downloaded from the following address: **www.gov.mb.ca/agriculture**.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for farm managers to do calculations to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit to finance the inputs.

To estimate a cash flow budget the actual payments on principle and interest may be substituted for the fixed costs. As well, an estimate can be made to cover family living expenses, funds for capital purchases and cost adjustments made for other enterprises on the farm.

Producers are encouraged to calculate their own costs of production. Costs and yields will differ on each farm due to soil type, climatic conditions and agronomic practices.

15396

Industry Summary

Over the past 6 years soybean acreage in Manitoba has increased from under 1000 acres to over 46,000 acres with average yields of 35 bushels per acre.

Soybeans can be grown for either the local feed, crushing or edible food market. Soybeans grown for crushing are currently shipped to crushing plants in North Dakota or Minnesota. While non GMO soybeans grown under identity preserved contracts are shipped to Europe and Asia. Hilums are the place where the bean is attached to the pod and can be yellow, black, brown or buff in colour. Some companies are contracting yellow or clear hilum soybean varieties for the human food market, if the soybeans meet the buyers standards. Yellow hilum soybeans that do not meet this standard are marketed through the crushing market. This is similar to farmers who grow barley for the malting industry.

Soybean - Cost of Production Summary

A. Operating Costs	Cost /Acre	Cost /bushel	Your Cost
1.01 Seed, treatment & inoculant	$45.96	$1.31	
1.02 Fertilizer	$8.58	$0.25	
1.03 Chemicals	$27.50	$0.79	
1.04 Fuel Costs	$9.50	$0.27	
1.05 Repair & Maintenance	$8.00	$0.23	
1.06 Insurance	$8.77	$0.25	
1.07 Miscellaneous	$8.00	$0.23	
1.08 Land Taxes	$6.50	$0.19	
Subtotal Operating	$122.81	$3.51	
1.09 Interest on Operating	$3.68	$0.11	
Total Operating Costs	**$126.49**	**$3.61**	
B. Fixed Costs			
2. Depreciation			
2.01 Machinery	$20.00	$0.57	
2.02 Storage	$1.90	$0.05	
3. Investment			
3.01 Land	$20.00	$0.57	
3.02 Machinery	$8.00	$0.23	
3.03 Storage	$0.84	$0.02	
Total Fixed Costs	**$50.74**	**$1.45**	
C. Labour	**$15.00**	**$0.43**	
Total Cost of Production	**$192.23**	**$5.49**	

Estimated yield per acre **35 bushels**

Soybean Cost of Production Worksheet
Assumptions

1. This budget provides a guideline to determine the cost of production for a soybean enterprise.

2. The investment in machinery and equipment was assumed to be $200 per acre. The machinery complement is similar to a grain enterprise.

3. A yield of 35 bushels per acre was assumed.

4. A land value of $500 per acre was assumed.

A. Operating Costs				Your Farm
1.01 Seed, treatment & inoculant				
		200,000	plants/acre	
	÷	2,600	seeds/lb	
	x	1.15	emergence factor	
	=	88	seeding rate lbs/acre	
	x	$0.42	seed cost ($/lb)	
	+	$6.00	inoculate	
	+	$3.00	seed treatment	
	=	**$45.96**	**$ /acre**	
1.02 Fertilizer				
Nitrogen		0	lbs/acre	
	x	$0.23	cost/lb	
	=	$0.00	$ /acre	

P2O5		35	lbs/acre	_____
	x	$0.245	cost/lb	_____
	=	$8.58	$ /acre	_____
K2O		0	lbs/acre	_____
	x	$0.135	cost/lb	_____
	=	$0.00	$ /acre	_____
Sulfur		0	lbs/acre	_____
	x	$0.24	cost/lb	_____
	=	$0.00	$ /acre	_____
Zinc		0	lbs/acre	_____
	x	$1.50	cost/lb	_____
	=	$0.00	$ /acre	_____
Total	**=**	**$8.58**	**$ /acre**	_____

1.03 Chemicals

	$22.50	pre plant incorporated	_____
+	$5.00	post emergent	_____
=	**$27.50**	**$ /acre**	_____

1.04 Fuel Costs

a) Field Fuel Costs

Operation	Times Over	Width feet	Speed mph	Fuel $/ac.	
Cultivate	1	24	5	1.54	
Spray	1	90	7	0.29	
Cultivate	2	48	6	1.28	
Plant	1	24	5	1.54	
Spray	1	90	7	0.29	
Combine	1	24	4	1.92	
Total				**$6.86**	

b) Truck Fuel Costs - from field to storage & market

	35	gross yield bu/acre	
=	210	total tons	
÷	5	truck capacity (tons)	
=	42	trips	
x	5	miles dist/trip	
=	210	total miles	
÷	2	fuel consumption (miles/gal)	
=	477	total litres (4.546 litres/gal)	
÷	200	total acres	
=	2.385	litres/acre	
x	$0.52	fuel cost ($/litre)	
Total =	**$1.24**	**trucking ($ /acre)**	
other fuel costs	**$1.40**	**$ /acre**	
Total =	**$9.50**	**fuel costs ($ /acre)**	

1.05 Repair & Maintenance

	4.0%	percentage rate	
x	$200	investment/acre	
=	**$8.00**	**$ /acre**	

1.06 Insurance

	$6.07	crop insurance	_____
+	$2.70	hail insurance	_____
=	**$8.77**	**$ /acre**	_____

1.07 Miscellaneous

=	**$8.00**	**$ /acre**	_____

1.08 Land Taxes

=	**$6.50**	**$ /acre**	_____

1.09 Interest on Operating

	$122.81	subtotal operating	_____
÷	2	average	_____
x	6.0%	interest rate	_____
=	**$3.68**	**$ /acre**	_____

B. Fixed Costs

2. Depreciation

$$\frac{\text{Original Value - Salvage Value}}{\text{Useful Life}}$$

2.01 Machinery

	$200.00	cost/acre	_____
-	$0.00	salvage value	_____
÷	10	useful life	_____
=	**$20.00**	**$ /acre**	_____

2.02 Storage

	$40.00	cost/acre	_____
-	$2.00	salvage value	_____
÷	20	useful life	_____
=	**$1.90**	**$ /acre**	_____

3. Investment

$$\frac{\text{Original Value + Salvage Value}}{2} \times \text{Investment Rate}$$

3.01 Land

	$500.00	cost/acre	_____
x	4.0%	% investment rate	_____
=	**$20.00**	**$ /acre**	_____

3.02 Machinery

	$200.00	cost/acre	_____
+	$0.00	salvage value	_____
x	4.0%	% investment rate	_____
=	**$8.00**	**$ /acre**	_____

3.03 Storage

	$40.00	cost/acre	
+	$2.00	salvage value	
÷	2	average	
x	4.0%	% investment rate	
=	**$0.84**	**$ /acre**	

C. Labour

	$10.00	$/hour	
x	1.5	hours/acre	
=	**$15.00**	**$ /acre**	

For further information contact your local Manitoba Agriculture office.

Prepared by:
Peter Blawat
Farm Management Specialist

Keith Kyle
Farm Management Specialist

Bruce Brolley
Pulse Crop Specialist